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Volcanic unrest in Europe and Latin America: Phenomenology, eruption precursors, hazard forecast, and risk mitigation

Fact Sheet

Project Information

VUELCO

Grant agreement ID: 282759

[Project website](#) 

Project closed

Start date

1 October 2011

End date

30 September 2015

Funded under

Specific Programme "Cooperation": Environment
(including Climate Change)

Total cost

€ 4 574 528,12

EU contribution

€ 3 499 993,01

Coordinated by

UNIVERSITY OF BRISTOL
 United Kingdom

Objective

Our knowledge of the causative links between subsurface processes, resulting unrest signals and imminent eruption is, today, wholly inadequate to deal effectively with crises of volcanic unrest. The VUELCO project consortium has come together for a multi-disciplinary attack on the origin, nature and significance of volcanic unrest from the scientific contributions generated by collaboration of ten partners in Europe

and Latin America. Dissecting the science of monitoring data from unrest periods at six type volcanoes in Italy, Spain, the West Indies, Mexico and Ecuador the consortium will create global strategies for 1) enhanced monitoring capacity and value, 2) mechanistic data interpretation and 3) identification of reliable eruption precursors; all from the geophysical, geochemical and geodetic fingerprints of unrest episodes. Experiments will establish a mechanistic understanding of subsurface processes capable of inducing unrest and aid in identifying key volcano monitoring parameters indicative of the nature of unrest processes. Numerical models will help establish a link between the processes and volcano monitoring data to inform on the causes of unrest and its short-term evolution. Using uncertainty assessment and new short-term probabilistic hazard forecasting tools the scientific knowledge base will provide the crucial parameters for a comprehensive and best-practice approach to 1) risk mitigation, 2) communication, 3) decision-making and 4) crisis management during unrest periods. The VUELCO project consortium efforts will generate guidance in the definition and implementation of strategic options for effective risk mitigation, management and governance during unrest episodes. Such a mechanistic platform of understanding, impacting on the synergy of scientists, policy-makers, civil protection authorities, decision-makers, and the public, will place volcanic unrest management on a wholly new basis, with European expertise at its peak.

Fields of science (EuroSciVoc)

[natural sciences](#) > [earth and related environmental sciences](#) > [geology](#) > **[volcanology](#)**

[social sciences](#) > [sociology](#) > [governance](#) > **[crisis management](#)**



Programme(s)

[FP7-ENVIRONMENT - Specific Programme "Cooperation": Environment \(including Climate Change\)](#)

Topic(s)

[ENV.2011.1.3.3-1 - Better prevention and management of volcanic eruptions](#)

Call for proposal

FP7-ENV-2011

[See other projects for this call](#)

Funding Scheme

[CP-FP-SICA - Small/medium-scale focused research project for specific cooperation actions dedicated to international cooperation partner countries\(SICA\).](#)

Coordinator



UNIVERSITY OF BRISTOL

EU contribution

€ 943 807,01

Total cost

No data

Address

**BEACON HOUSE QUEENS ROAD
BS8 1QU Bristol**

United Kingdom

Region

South West (England) > Gloucestershire, Wiltshire and Bristol/Bath area > Bristol, City of

Activity type

Higher or Secondary Education Establishments

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Participants (9)



UNIVERSITY OF LEEDS

United Kingdom

EU contribution

€ 410 930,01

Address

**WOODHOUSE LANE
LS2 9JT Leeds**

Region

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS

Spain

EU contribution

€ 417 567,00

Address

CALLE SERRANO 117
28006 Madrid

Region

Comunidad de Madrid > Comunidad de Madrid > Madrid

Activity type

Research Organisations

Links

[Contact the organisation](#) [Website](#)

[Participation in EU R&I programmes](#)

[HORIZON collaboration network](#)

Total cost

No data



ISTITUTO NAZIONALE DI GEOFISICA E VULCANOLOGIA

Italy

EU contribution

€ 565 410,00

Address

Via di Vigna Murata 605
00143 Roma 

Region

Centro (IT) > Lazio > Roma

Activity type

Research Organisations

Links

- [Contact the organisation](#) 
- [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data



DIPARTIMENTO DELLA PROTEZIONE CIVILE

 Italy

EU contribution

€ 107 368,00

Address

VIA ULPIANO 11
00193 Roma 

Region

Centro (IT) > Lazio > Roma

Activity type

Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)

Links

- [Contact the organisation](#) 
- [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

No data



LUDWIG-MAXIMILIANS-UNIVERSITAET MUENCHEN

 Germany

EU contribution

€ 392 770,00

Address

GESCHWISTER SCHOLL PLATZ 1
80539 MUNCHEN 

Region

Bayern > Oberbayern > München, Kreisfreie Stadt

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost

No data



CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS

 France

EU contribution

€ 299 702,00

Address

RUE MICHEL ANGE 3
75794 Paris 

Region

Ile-de-France > Ile-de-France > Hauts-de-Seine

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost

No data



UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO (UNAM) ⓘ

 Mexico

EU contribution

€ 93 604,99

Address

AV. UNIVERSIDAD 3000, COYOACAN
04510 CIUDAD DE MEXICO 

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost

No data



THE UNIVERSITY OF THE WEST INDIES U WI*

 Jamaica

EU contribution

€ 163 318,00

Address

MONA
7 Kingston 

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 
[Participation in EU R&I programmes](#) 
[HORIZON collaboration network](#) 

Total cost

No data



ESCUELA POLITECNICA NACIONAL

 Ecuador

EU contribution

€ 105 516,00

Address

LADRON DE GUEVARA

17012759 Quito 

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

No data

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Permalink: <https://cordis.europa.eu/project/id/282759>

European Union, 2025